

LABORATORY REPORT

July 24, 2009

Matt Fragala Environmental Health & Engineering, Inc. 117 Fourth Avenue Needham, MA 02494

RE: 16512

Dear Matt:

Enclosed are the results of the samples submitted to our laboratory on July 21, 2009. For your reference, these analyses have been assigned our service request number P0902469.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains _____ pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-08-TX. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Kate Speech

Kate Aguilera

Project Manager



Client:

Environmental Health & Engineering, Inc.

CAS Project No:

P0902469

Project:

16512

CASE NARRATIVE

The samples were received intact under chain of custody on July 21, 2009 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Aldehyde Analysis

The samples were analyzed for aldehydes according to EPA Method TO-11A using high performance liquid chromatography (HPLC).

The samples described as media/lot blanks contain low levels of formaldehyde. The levels are below the laboratory reporting limit.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client:

Environmental Health & Engineering, Inc.

Project:

16512

Service Request: P0902469

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	$\underline{\mathrm{DATE}}$	<u>TIME</u>
P0902469-001	97925	7/20/09	00:00
P0902469-002	97926	7/20/09	00:00
P0902469-003	97927	7/20/09	00:00

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

|--|

	DATE: 1/20/09
FROM:	Environmental Health and Engineering, Inc.
	dd 7 Carretta Arras a

то: СА			117 Fourth Avenue Needham, MA 02494-2	725 POGED 2469
10. <u></u>	, Tab		Please send invoices to ATTN Please send reports to ATTN:	
In all correspor	ndence regarding th	nis matter, please refer to	EH&E Project #16512_	
		overed by EH&E Purchas	f &	
	ta Coordinator - UF	•		
SAMPLE ID	SAMPLE TYPE	ANALYTIC	AL METHOD/NUMBER	OTHER:Time/Date/Vol.
97925	Tube	Media / Lot Blo	EPA TO-114 FULL	Si 6
97926		.		0
97927	1	V		Õ
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Special instruc			7 - D. V	
And a structure to the second		turn around time	(Rush by 2-0-7 date/time	☐ Other ————
	□ Fax result	s 781-247-4305 SAMPLES	KElectronic transfer - datacoordii	nator@eheinc.com
		report recipientmtn		
Each signat	ory please retu	rn one copy of this	s form to the above addre	SS
Relinquished by	and have	/ _	ntal Health & Engineering, Inc.	Date: 7/20/09
Received by: 1			name) Charles IIII (1971)	
•	/:		name)	1
		` ' '	name)	
			name)	
			name)	Date:
Lab Data			ntal Health & Engineering, Inc.	Date:
		Or Environmen	na. Hoain a Enginoening, inc.	Page of
				rayt 01 (

Columbia Analytical Services, Inc. Sample Acceptance Check Form

Client:	Environmenta	al Health & Engineeri	_	le Acceptance	Check Forn	n Work order:	P0902469			
Project:		8			•		.,			
Sample(s) received on:	07/21/09			Date opened:	07/21/09	by:	MZAN	10RA	
Note: This	form is used for <u>all</u>	samples received by CAS.	The use of this form	n for custody seals	is strictly meant	to indicate presence/a	bsence and not as a	n indicatio	on of	
compliance	or nonconformity.	Thermal preservation and pl	H will only be eval	uated either at the	request of the clie	ent and/or as required	by the method/SOI	Yes	<u>No</u>	N/A
1	Were sample	containers properly 1	marked with c	lient sample II) ?			X		
2	Container(s) s	supplied by CAS?							X	
3	Did sample co	ontainers arrive in go	ood condition?					X		
4	Was a chain-	of-custody provided?						X		
5	Was the chair	1-of-custody properly	completed?						X	
6	Did sample co	ontainer labels and/o	r tags agree w	ith custody pa	pers?			X		
7	Was sample v	volume received adequ	ate for analys	is?				X		
8	Are samples v	vithin specified holdir	ng times?					X		
9	Was proper te	emperature (thermal	preservation)	of cooler at rec	eipt adhered	to?			X	
	(Cooler Temperature	10	°C Blank	Temperature	-	_°C			
10	Was a trip bla	ank received?							X	
	Trip blank s	supplied by CAS:								
11	Were custody	seals on outside of co	ooler/Box?						X	
	Location of	seal(s)?					_Sealing Lid?			X
	Were signat	ure and date included	?			-				X
	Were seals i	ntact?								X
	Were custody	seals on outside of sar	mple containe	r?					X	
	Location of	seal(s)?					_Sealing Lid?			X
	Were signat	ure and date included	?							X
	Were seals i	ntact?								X
12	Do containers	have appropriate pre	servation, acc	cording to metl	nod/SOP or C	Client specified in	nformation?			X
	Is there a clie	nt indication that the	submitted san	nples are pH p	reserved?					X
	Were VOA v	ials checked for prese	nce/absence o	f air bubbles?						X
	Does the clien	nt/method/SOP requir	e that the anal	lyst check the	sample pH an	d <u>if necessary</u> al	ter it?			X
13	Tubes:	Are the tubes cap						X		
		Do they contain	moisture?						X	
14	Badges:	Are the badges p	roperly cappe	d and intact?						X
		Are dual bed bac	lges separated	and individua	lly capped an	d intact?				X
Lab :	Sample ID	Container	Required	Received	Adjusted	VOA Headspac	e Receip	t / Pres	ervation	
		Description	pH *	pH	рН	(Presence/Absence)		ommei		
P0902469	0-001.01	Silica Gel DNPH Tube								
P0902469	0-002.01	Silica Gel DNPH Tube				***************************************				
P0902469	0-003.01	Silica Gel DNPH Tube				W771000 8 28 18 27 28 18 28 28 28 28 28 28 28 28 28 28 28 28 28				
							1			

Explain a	ny discrepancies	: (include lab sample II) numhers).				<u> </u>			لححت
_	ustody is missin									***************************************
	·····					***************************************				

RESULTS OF ANALYSIS Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 97925 CAS Project ID: P0902469

Client Project ID: 16512 CAS Sample ID: P0902469-001

Test Code: EPA Method TO-11A Date Collected: 7/20/09

Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1 Date Received: 7/21/09
Analyst: Hani Cherazaie Date Analyzed: 7/22/09

Sampling Media: Silica Gel DNPH Tube

Date Analyzed: 7/22/09

Sampling Media: Desorption Volume: 1.0 ml

Test Notes: BC Volume Sampled: NA Liter(s)

CAS#	Compound	Result	Result	MRL	Result	MRL	Data
		ng/Sample	$\mu g/m^3$	$\mu g/m^3$	ppbV	ppbV	Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	,
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

BC = Results reported are not blank corrected.

RESULTS OF ANALYSIS Page 1 of 1

Client:

Environmental Health & Engineering, Inc.

Client Sample ID: 97926

Client Project ID: 16512

CAS Project ID: P0902469

CAS Sample ID: P0902469-002

Test Code:

EPA Method TO-11A

Instrument ID: Analyst:

Waters LC Module I Plus/UV_Vis 360/LC1 Hani Cherazaie

Sampling Media:

Silica Gel DNPH Tube

Test Notes:

BC

Date Collected: 7/20/09

Date Received: 7/21/09 Date Analyzed: 7/22/09

Desorption Volume:

1.0 ml

Volume Sampled:

NA Liter(s)

CAS#	Compound	Result	Result	MRL	Result	MRL	Data
		ng/Sample	$\mu g/m^3$	$\mu g/m^3$	\mathbf{ppbV}	ppbV	Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Verified By:

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

BC = Results reported are not blank corrected.

RESULTS OF ANALYSIS Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 97927 CAS Project ID: P0902469

Client Project ID: 16512 CAS Sample ID: P0902469-003

Test Code: EPA Method TO-11A Date Collected: 7/20/09

Instrument ID: Waters LC Module I Plus/UV_Vis 360/LC1 Date Received: 7/21/09
Analyst: Hani Cherazaie Date Analyzed: 7/22/09

Sampling Media: Silica Gel DNPH Tube

Desorption Volume: 1.0 ml

Test Notes: BC Volume Sampled: NA Liter(s)

CAS#	Compound	Result	Result	MRL	Result	MRL	Data
		ng/Sample	$\mu g/m^3$	$\mu g/m^3$	$\mathbf{p}\mathbf{p}\mathbf{b}\mathbf{V}$	ppbV	Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2.5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

BC = Results reported are not blank corrected.

Verified By: Re Date: 71266

RESULTS OF ANALYSIS Page 1 of 1

Client:

Environmental Health & Engineering, Inc.

Client Sample ID: Method Blank

Client Project ID: 16512

CAS Project ID: P0902469 CAS Sample ID: P090722-MB

Test Code:

EPA Method TO-11A

Instrument ID:

Waters LC Module I Plus/UV Vis 360/LC1

Analyst:

Hani Cherazaie

Sampling Media:

Silica Gel DNPH Tube

Test Notes:

BC

Date Collected: NA

Date Received: NA

Date Analyzed: 07/22/09

Desorption Volume:

1.0 ml

Volume Sampled:

NA Liter(s)

CAS#	Compound	Result	Result	MRL	Result	MRL	Data
	•	ng/Sample	μg/m³	$\mu g/m^3$	ppbV	ppbV	Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

BC = Results reported are not blank corrected.

NA = Not applicable.